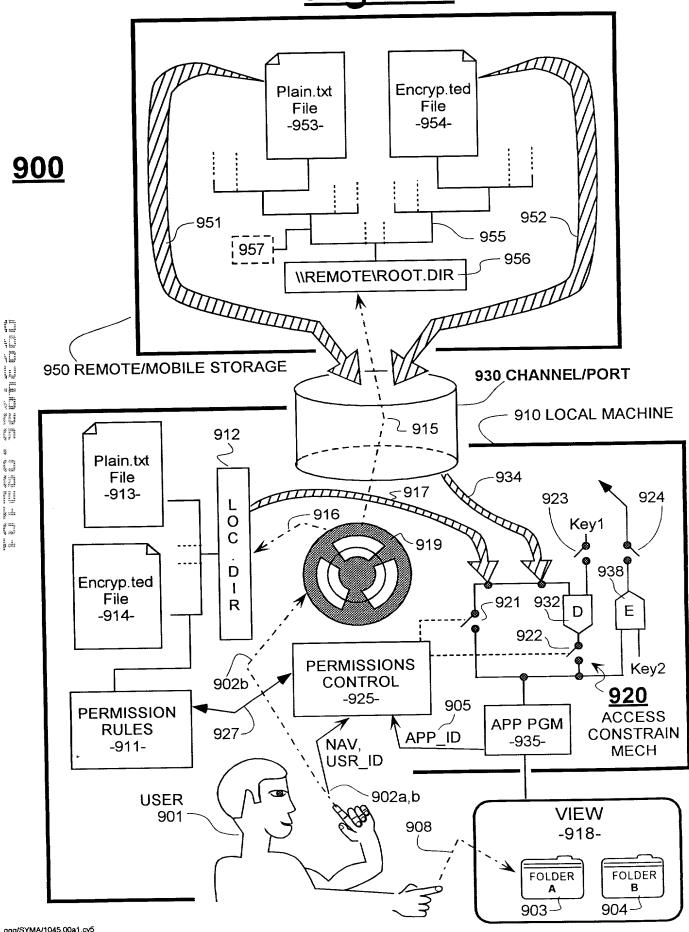
Fig. 1A



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Sheet 1 /

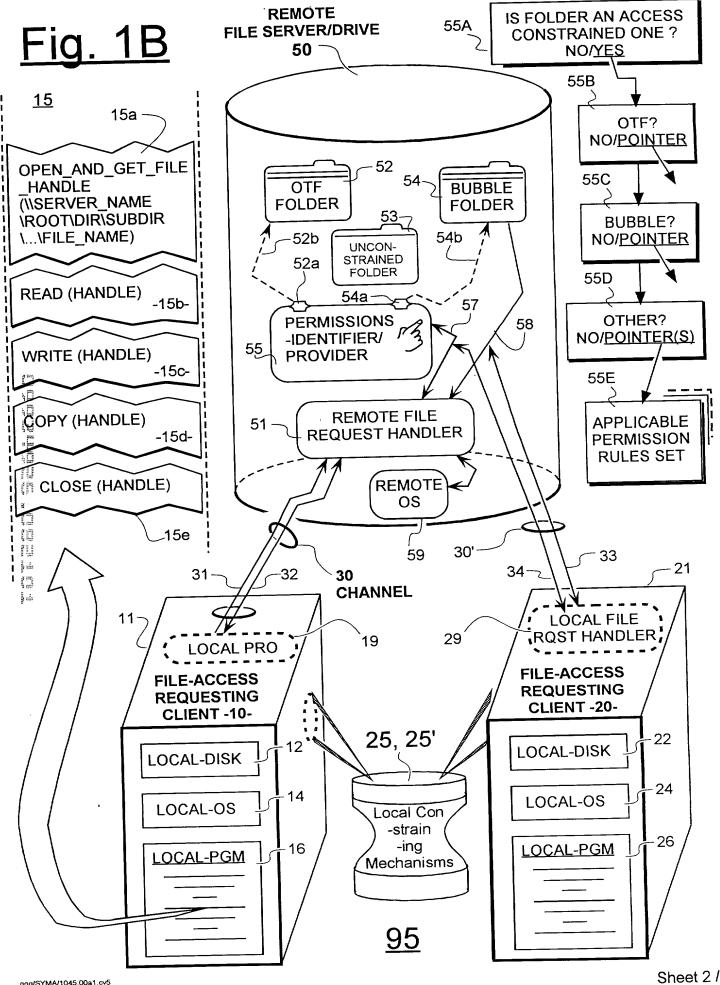


Fig. 1C

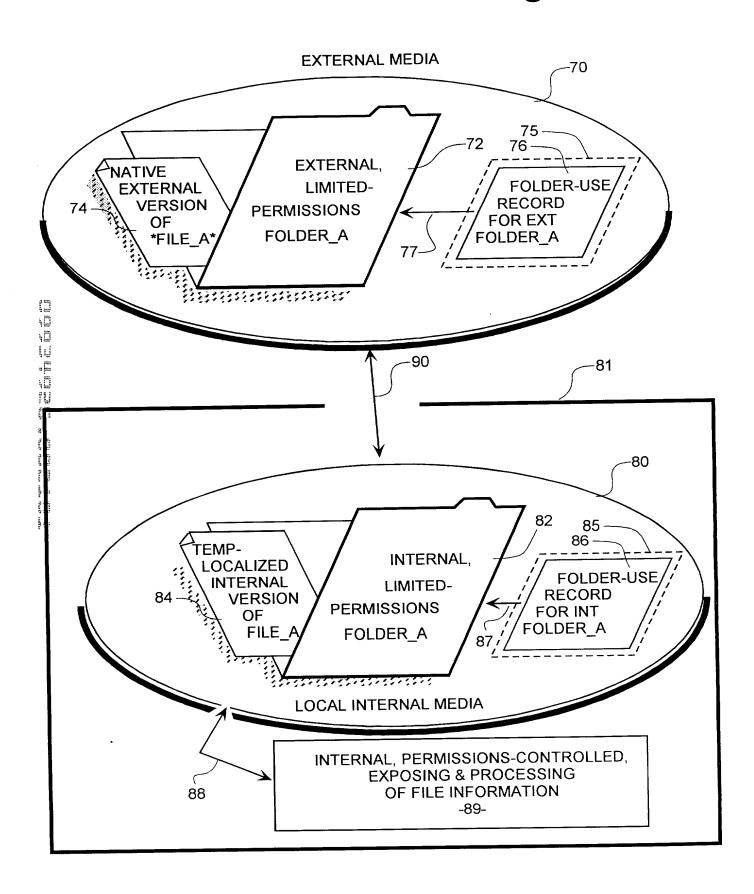
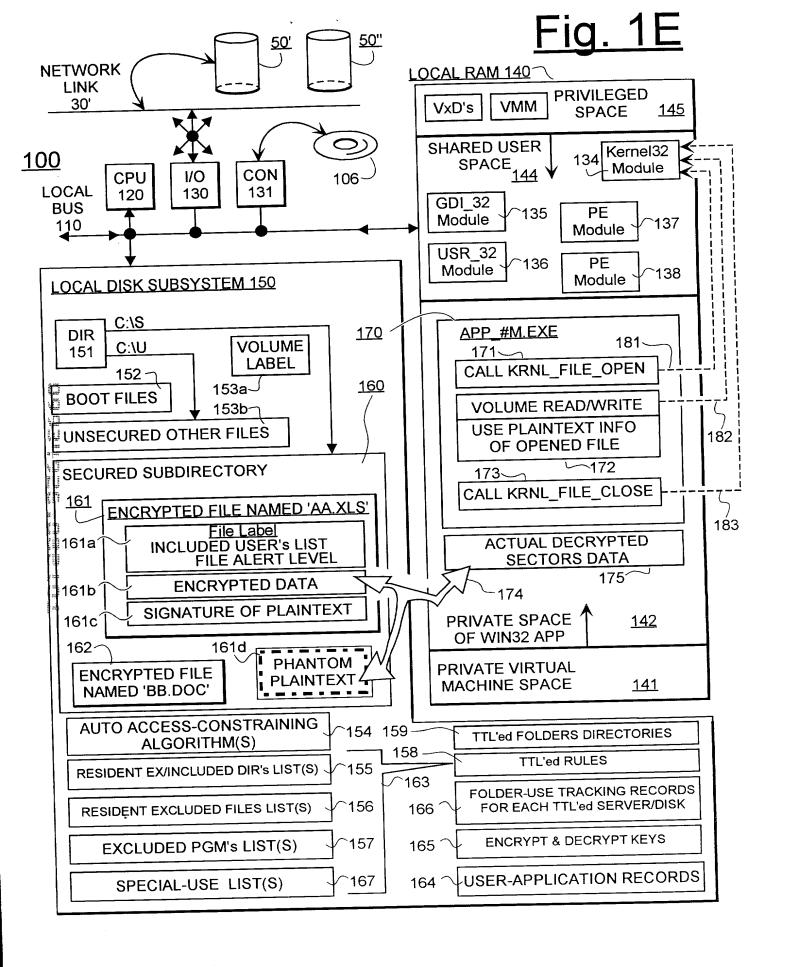


Fig. 1D

<u>60</u>

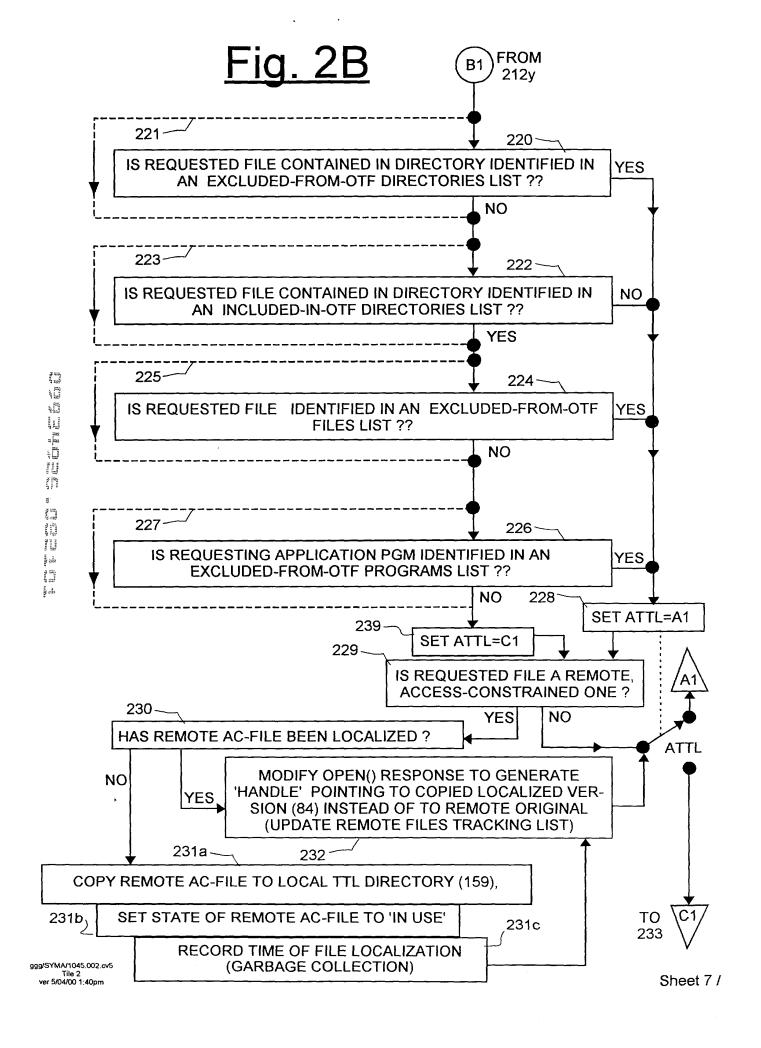
FOLDER-USE RECORD

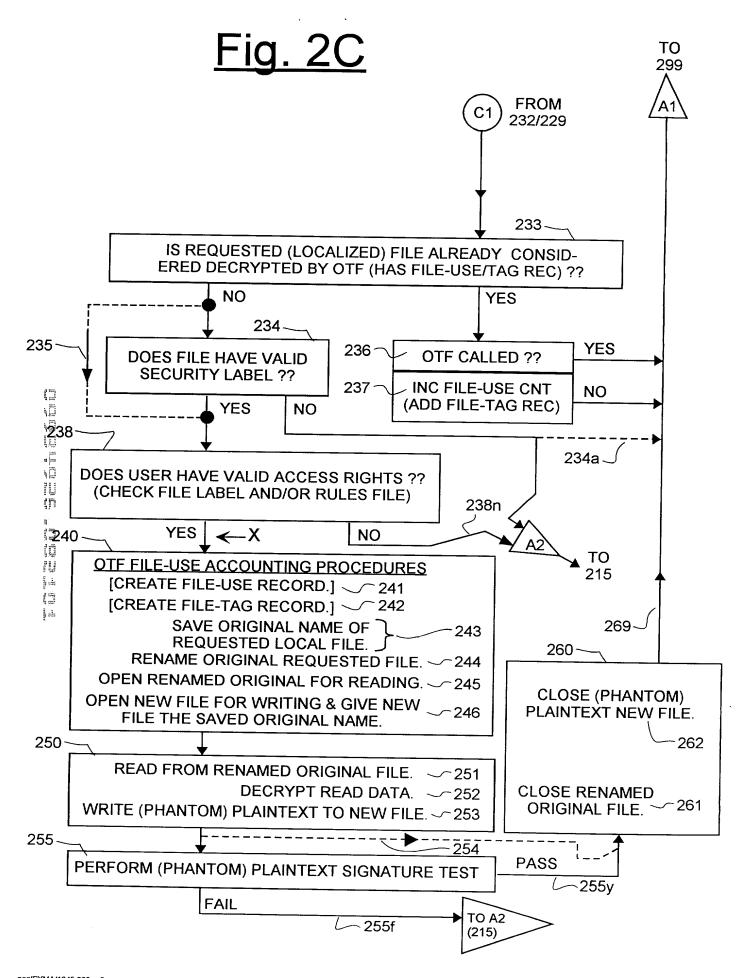
61 ~	FULL PATHNAME OF LOCAL VERSION OF ACCESS-CONSTRAINED FOLDER (\\LMACHINE\VOLUME\DIR\\SUBDIR) 61a
C1 al .	NATIVE? TEMPORARILY-LOCALIZED AND EXTERNAL ON-LINE?
61d \	FULL PATHNAME OF EXTERNAL, SOURCING ACCESS-CONSTRAINED FOLDER (\\SERVER\\VOLUME\\DIR\\\\SUBDIR\) NATIVE & IN USE BY OUTSIDE MIRROR(S)
62 (mail	TYPES OF ACCESS-CONSTRAINT APPLYING TO THIS FOLDER (AT LEAST ONE IS CHECKED) ON-THE-FLY RECRYPTION (OTF) BI-DIRECTIONAL BUBBLE PROTECTION OTHER
63	OTF CONTROL LIST(S)
ENCO R. J. Jung 1982 1982 1983 1983 1983 1983 1983 1983 1983 1983	66 EXCLUDED FILES LIST
	67 EXCLUDED PROGRAMS LIST
	68 OTHER CONTROL INFO FOR THIS OTF-COVERED FOLDER
65	BUBBLE CONTROL LIST(S)
<u> </u>	96 FILES APPROVAL SPECIFICATIONS
	97 PROGRAMS APPROVAL SPECIFICATIONS
	98 OTHER CONTROL INFO FOR THIS BUBBLE-COVERED FOLDER
<u>93</u> \sim	QTHER PERMISSION CONTROL LIST(S)
<u>69</u> ^	AUTHORIZED USERS CONTROL LIST(S) FOR THIS ACCESS-CONSTRAINED FOLDER
99 ~	DIGITAL SIGNATURE FOR NATIVE VERSION OF THIS FOLDER-USE RECORD



200 Fig. 2A 201 ~ 299 ~ ENTER ON INTERCEPT OF OPEN-FILE EXIT INTERCEPT REQUEST SENT TO OS KERNEL DUE TO & CONTINUE WITH (SUB)ACTIVITY OF LAUNCHED APPLICATION NORMAL F-OPEN PGM OR OS COMPONENT 202y - 202 **UPDATE** IS **EXIT** -204 FOLDER-USE REQSTED WITH Yes No IS **RECORDS MEDIA AVAI** SERVER/ **FOR** AN ACCESS -LABLE MEDIA No **UNAVAILBLE** Yes CONSTRAINING 203 **ERROR** SERVER/ **OPERATION MEDIA** ACTIVE? 204n 204y 298 205-IS CONSTRAINTS TRACKING INFORMATION FOR FOLDER OF] REQUESTED FILE LOCALLY AVAILABLE ?? Yes No ıD 206-١D TRY TO FETCH CONSTRAINTS TRACKING INFORMATION (76) FOR 1 [FOLDER (72) OF] REQUESTED FILE (74) FROM REMOTE SOURCE (75), DO SIGNATURE CHECK, [OPTIONALLY DECRYPT,] STORE AUTHENTICATED Į. PLAINTEXT COPY (86) INTO LOCAL TRACKING AREA (85) n de la companya de l **AVAILABLE** UNAVAIL-77 206n-206y **ABLE** 1 BAD 700 **~207** SIGN IS 2 -206x j ul TRACKING No to A2 213 ~ INFO NECES-100 Marie SARY? 207n 212 ~ Yes IS OPEN-FILE REQUEST FOR ACCESS TO 207y THIS FILE APPROVED BY THE BUBBLEto A2 BASED. PROGRAM-APPROVING/DENYING Yes **ALGORITHM??** No 212y 217 REFUSE THE 218 **OPEN REQUEST** to **B1** WITH A FAILED **POST LEVELED** REQUEST SECURITY ALERT **SIGNAL** 215 219 **EXIT** from 207, 238n. etc. ggg/SYMA/1045.002.cv5

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300 FILE-USE RECORD

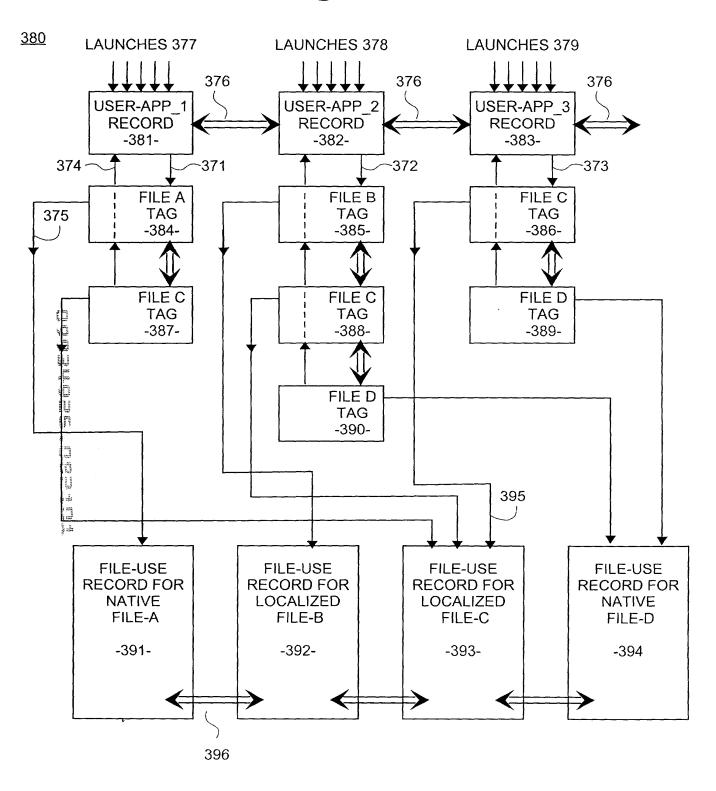
Fig. 3A

310	OF	RIGINAL PATHNAME OF LOCAL VERSION OF OTF-COVERED FILE
<u>320</u> ^	CU	RRENT STATE OF THE LOCAL FILE
	321 ^	☐ BEING PROCESSED BY LOCAL OTF? ☐ RENAME STILL IN PROGRESS ☐ DECRYPT STILL IN PROGRESS ☐ RE-ENCRYPT STILL IN PROGRESS ☐ SCORCH OF PLAINTEXT STILL IN PROGRESS ☐ UPDATE OF DIR ATTRIBUTES STILL IN PROGRESS ☐ OTF HANDLING COMPLETE
	(322)—	FILE LABEL PRESENT & VALID ACCESS RIGHTS HAVE BEEN CHECKED RULES FILE MATCHES FILE LABEL
	323 ^	PLAINTEXT MODIFIED BY USER ?
330	USA	AGE TRACKING
H. Harli many dise	331 ~	☐ USE-COUNT: (IN-USE BY 1+ LOCAL APP PROGRAMS?)
	(332)	POINTER TO BIDIRECTIONALLY LINKED LIST OF PATHNAMES OF APPLICATIONS (LOCAL) STILL 'USING' THE PLAINTEXT FILE AND `IDLE TIME' OF EACH SUCH APP
Street Street on the street of	(333)	IDLE TIME LOCKOUT ACTIVE ?
	(334)	DELAY OF POST-CLOSE DECRYPTION REQUESTED BY LOCAL APPLICATION?
	(335)—	POINTER TO BIDIRECTIONALLY LINKED LIST OF POST-CLOSE EVENTS TO WAIT FOR
<u>340</u> \smallfrown	ORIG	GIN TRACKING
	341 🦳	NEW NAME OF RENAMED & (NATIVE OR LOCALIZED) FILE
	342 🦳	ORIGINAL REMOTE PATHNAME OF LOCALIZED FILE
	343 🔨	TYPE OF MEDIA ON WHICH RENAMED & (NATIVE OR LOCALIZED) FILE ORIGINALLY SAT ON
		☐ NATIVE VS. REMOTE ☐ FIXED VS. REMOVABLE ☐ RW VS. READ-ONLY ☐ IN VS. REMOVED
	344	STATUS OF CHANNEL TO MEDIA ON WHICH RENAMED & LOCAL-IZED FILE ORIGINALLY SAT ON TRUSTED VS. UNTRUSTED UP VS. DOWN

Fig. 3B

<u>30</u>	<u>)0</u>	FILE-USE RECORD (CONTINUED)
<u>340</u> ^	(345) ^	OTHER ATTRIBUTES OF RENAMED & (NATIVE OR LOCALIZED) FILE TIME OF LOCALIZATION TIME OF LOCALIZATION
<u>350</u> ^	GLC	DBAL SYSTEM TRACKING
	351~	☐ VxD ID NUMBER FOR THIS RECORD
	(352) ^	POINTERS TO NEXT/PREVIOUS FILE-USE RECORD
See of State	(353) ^	POINTERS TO CORRESPONDING, EXTERNAL FILE-USE RECORDS
te then then		
en er en		Fig. 3C
The Carlo		USER-APPLICATION RECORD
<u>360</u> ^	_	
j	361~	PATHNAME OF THIS FILE-USING LOCAL APPLICATION PGM
	362 <	COUNT OF NUMBER OF TIMES THIS FILE-USING APPLICATION HAS BEEN LAUNCHED
	363 <i>~</i>	POINTER TO BIDIRECTIONALLY LINKED LIST OF FILE TAGS OF FILES THAT HAVE BEEN 'OPENED' BY ACTION OF THIS APPLICATION PGM
	364~	POINTERS TO NEXT/PREVIOUS USER-APP RECORD
	[

Fig. 3D



400 Fig. 4A 401 ~ 499 ~ ENTER ON INTERCEPT OF CLOSE-FILE **EXIT INTERCEPT** REQUEST SENT TO OS KERNEL DUE TO & CONTINUE WITH (SUB)ACTIVITY OF LAUNCHED APPLICATION NORMAL F-CLOSE **PGM OR OS COMPONENT** 402y 202 **UPDATE EXIT** IS 404 FOLDER-USE REQSTED WITH Yes No IS **RECORDS MEDIA AVAI** SERVER/ **FOR** AN ACCESS -LABLE MEDIA No UNAVAILBLE Yes CONSTRAINING 403 **ERROR** SERVER/ **OPERATION** MEDIA **ACTIVE?** 404n 404v 498 405-IS CONSTRAINTS TRACKING INFORMATION FOR IFOLDER OF] REQUESTED FILE LOCALLY AVAILABLE ?? Yes No Į. **UNAVAIL-**406n-ABLE **-407** 3 111 IS and Car TRACKING No 413 ~ INFO NECES-SARY? 407n 412 ~ 1 Yes IS CLOSE-FILE REQUEST FOR FINISHING 407y ACCESS TO THIS FILE APPROVED BY THE BUBBLE-BASED, PROGRAMto D2 APPROVING/DENYING ALGORITHM ?? Yes No 412y 417 REFUSE THE 418 CLOSE REQUEST to E1 WITH A FAILED **POST LEVELED** REQUEST SECURITY ALERT **SIGNAL** 415 419 **EXIT** from D2 407, 438n, etc. ggg/SYMA/1045.004.cv5

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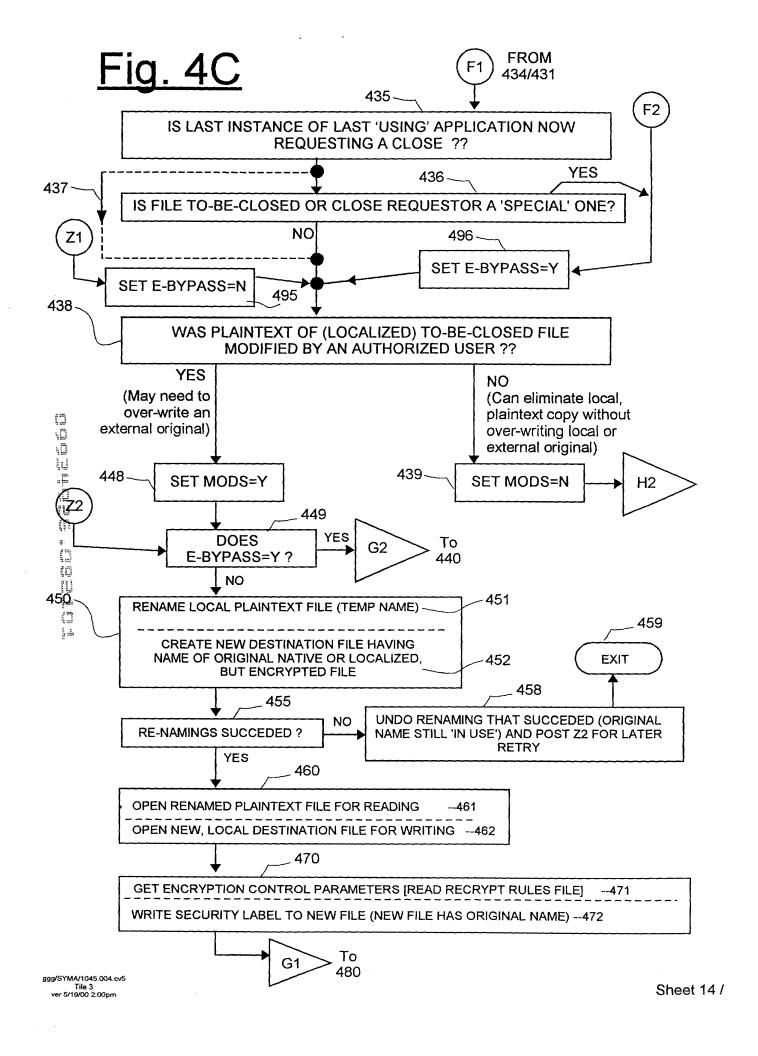


Fig. 4D

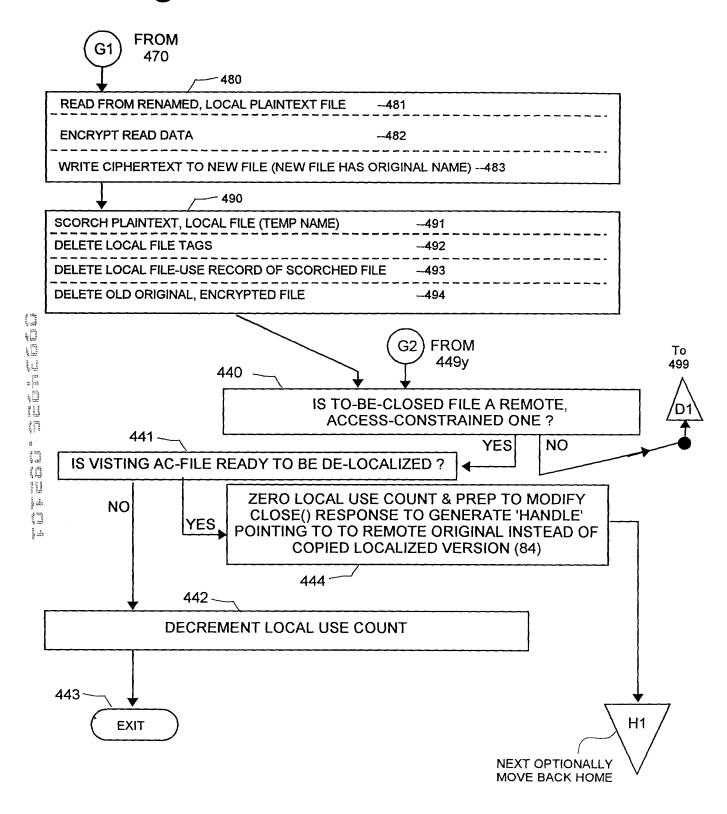
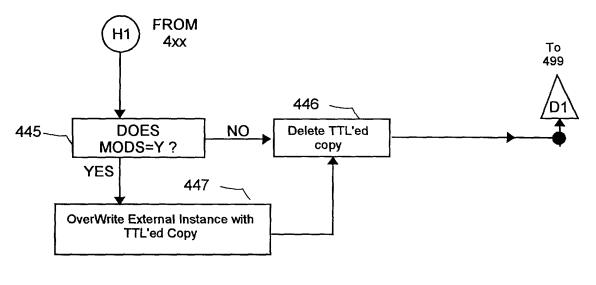
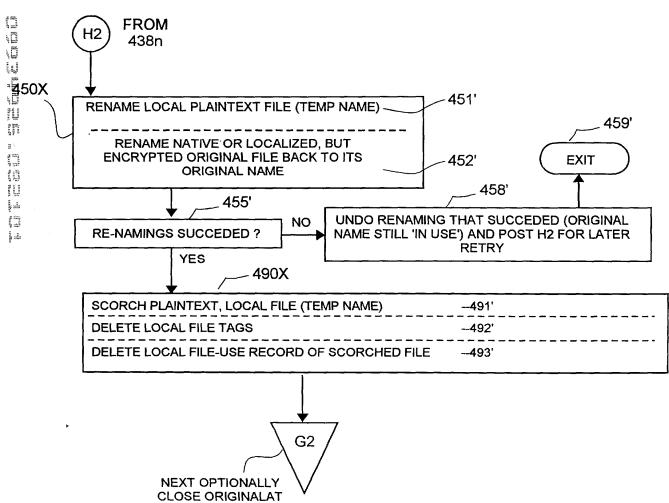
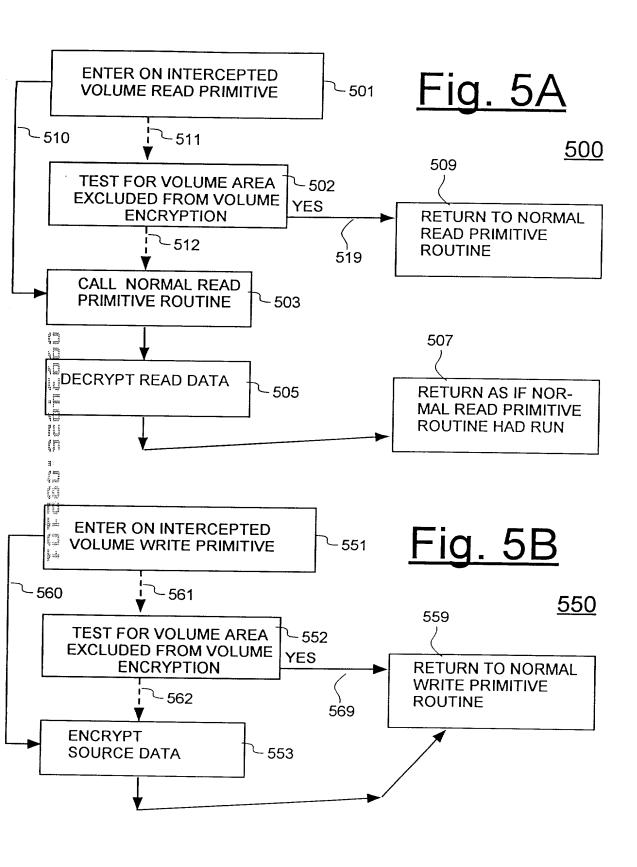


Fig. 4E





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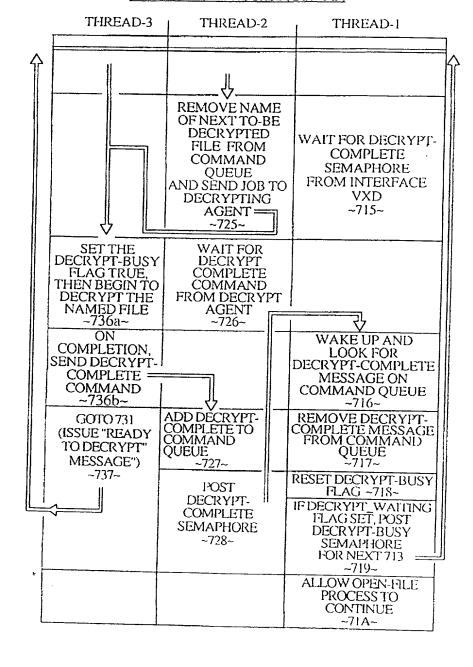
MULTI-THREADED FLOWCHART FOR RECRYPTION PROCESS THREAD-3 THREAD-2 THREAD-I DECRYPTING **EVENTS INTERFACE AGENT** INTERCEPTING CONTROLLING VxDVxD ~730~ ~720~ ~710~ ON INTERCEPT OF SEND MESSAGE AN 'OPEN-FILE' TO CONTROLLING REQUEST SENT VxD (720), TO THE OS "READY TO OS KERNEL DECRYPT NEXT **GOTO 712** FILE IF ANY" = ~711~ ~731~ IF THÈRE IS A **NEXT FILE TO** IF DECRYPTION BE DECRYPTED IS DEEMED WAITING ON **NECESSARY** THE CONTROL ADD NAME OF COMMAND TO-BE DECRYPTED OUEUE. WAIT FOR FILE TO CONTROL REMOVE IT **NEXT JOB** COMMAND QUEUE **FROM** WITH DECRYPT COMMAND COMMAND. ~732~ **OUEUE&** ~712~ SEND JOB TO **DECRYPTING** TEST AGENT (730) DECRYPT-BUSY FLAG, IF TRUE: SET DECRYPT_ ELSE, WAIT FOR WAITING DECRYPT FLAG AND WAIT FOR DECRYPT-BUSY **SEMAPHORE** SEMAPHORE FROM EVENTS FROM 719 VxD(710) **ELSE: CONTINUE** ~722~ ~713~ POST DECRYPT WAKE UP ON SEMAPHORE RECEIPT OF ~714~ **SEMAPHORE** ~724~ **FROM** ΤÒ TO FROM 737 736a 725 719

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6B

FIGURE 78

MULTI-THREADED FLOWCHART FOR RECRYPTION PROCESS (CONT'D)



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